

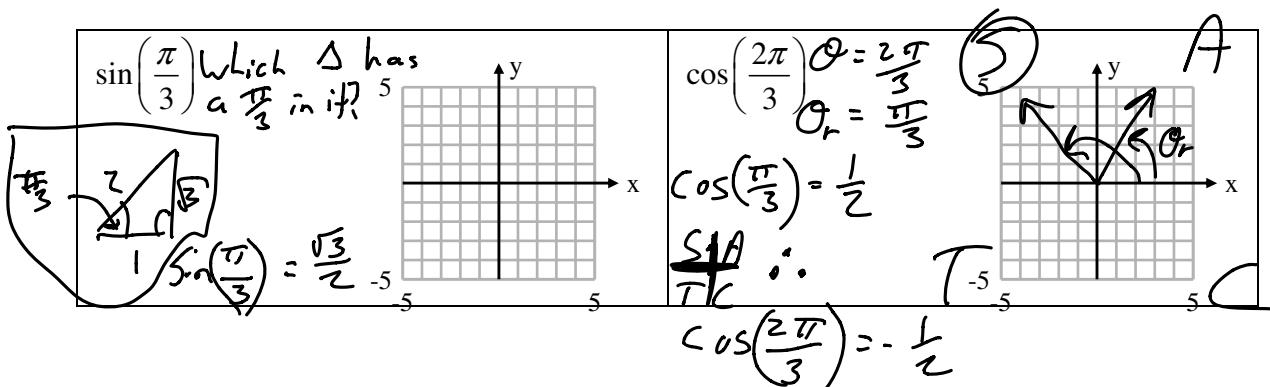
4.5 Special Triangles

Review from Math 10/Pre-Calc 11:	New for Pre-Calc 12
<p>A right-angled triangle with both acute angles labeled 45°. The vertical leg is labeled 1, the horizontal leg is labeled 1, and the hypotenuse is labeled $\sqrt{2}$.</p>	<p>A right-angled triangle with acute angles 30° and 60°. The vertical leg is labeled 1, the horizontal leg is labeled $\sqrt{3}$, and the hypotenuse is labeled 2. A second triangle is shown with a vertical leg of $\frac{1}{\sqrt{3}}$, a horizontal leg of 1, and a hypotenuse of 1.</p>
<p>A right-angled triangle with acute angles 30° and 60°. The vertical leg is labeled 1, the horizontal leg is labeled $\sqrt{3}$, and the hypotenuse is labeled 2. A second triangle is shown with a vertical leg of $\frac{1}{\sqrt{3}}$, a horizontal leg of 1, and a hypotenuse of 1.</p>	<p>A right-angled triangle with acute angles 30° and 60°. The vertical leg is labeled 1, the horizontal leg is labeled $\sqrt{3}$, and the hypotenuse is labeled 2. A second triangle is shown with a vertical leg of $\frac{1}{\sqrt{3}}$, a horizontal leg of 1, and a hypotenuse of 1. The reference angle $\frac{\pi}{6}$ is circled.</p>

All of these questions/examples are NO CALCULATOR!

Method to evaluate trigonometric functions with special triangles:

1. Draw the angle in standard position
2. Determine the reference angle
3. Determine the trig ratio (fraction) for the given reference angle
4. Determine sign (positive/negative) depending on what quadrant you are in.



$\tan\left(\frac{7\pi}{6}\right)$		$\sin\left(\frac{7\pi}{4}\right)$	
$= \frac{\sqrt{3}}{3}$			
$\tan\left(-\frac{2\pi}{3}\right)$		$\cos\left(-\frac{11\pi}{6}\right)$	
$= \sqrt{3}$			
$\sin\left(\frac{9\pi}{4}\right)$		$\cos\left(-\frac{23\pi}{6}\right)$	
$= \frac{\sqrt{2}}{2}$			